



STIC Search Report

EIC 1700

STIC Database Tracking Number: 157853

TO: Henry Hu
Location: REM 10A20
Art Unit : 1713
July 13, 2005

Case Serial Number: 10/753071

From: Usha Shrestha
Location: EIC 1700
REMSSEN 4B28
Phone: 571/272-3519
usha.shrestha@uspto.gov

Search Notes

SEARCH REQUEST FORM**Scientific and Technical Information Center**

Requester's Full Name: HENRY HU Examiner #: 79349 Date: 6-28-05
 Art Unit: 1713 Phone Number ~~30~~ 2-1103 Serial Number: 10/753,071
 Mail Box and Bldg/Room Location: AU1713 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

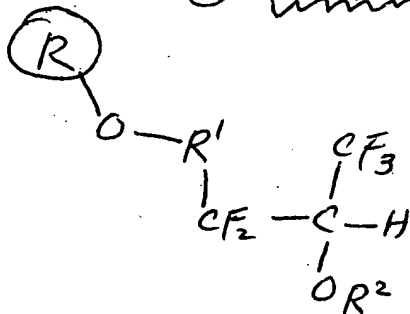
Title of Invention: Fluorine-containing compounds, monomers ----

Inventors (please provide full names): Tadashi Narita, and Kazuhiko Maeda

Earliest Priority Filing Date: 1-10-2003

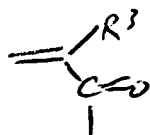
**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Please search any Monomer comprising the unit of



- $\text{R}' =$ ① alkylene bivalent group
 ② a cyclic bivalent group (containing aromatic or aliphatic)
 ③ a cyclic bivalent (containing aromatic and aliphatic)

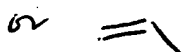
④ can be formula (2), formula (3), and formula (5)




$\text{R}^2 =$ ① H

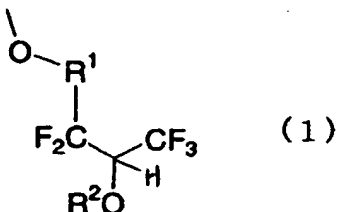
② alkyl group

③ a cyclic aliphatic group



See Attached claims 4-7

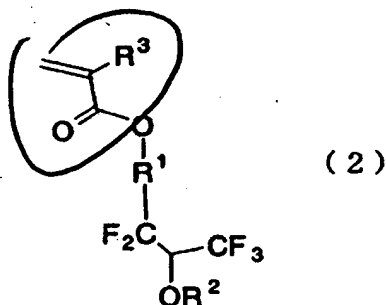

 A fluorine-containing polymerizable monomer comprising a substituent represented by the formula 1,



where R^1 is (a) a straight-chain or branched ~~alkyl~~ or alkylene group, (b) a cyclic structure containing an aromatic ring group or aliphatic cyclic group, or (c) a substituent containing an aromatic ring group and an aliphatic cyclic group, and R^1 optionally contains fluorine, another halogen, CN, oxygen, nitrogen, silicon, or alcohol, and

R^2 is a hydrogen atom, a straight-chain or branched alkyl group, an aromatic group, or a hydrocarbon group optionally containing an aliphatic cyclic group, and R^2 optionally contains fluorine, oxygen, nitrogen, carbonyl bond, or alcohol, and a plural number of R^2 having different structures are optionally contained in the molecule.

5. A fluorine-containing polymerizable monomer according to claim 4, which is represented by the formula 2,



wherein R^1 and R^2 are defined as in the formula 1, and

R^3 is a hydrogen, fluorine, alkyl group optionally containing fluorine, or cyano group.

=> fil reg

FILE 'REGISTRY' ENTERED AT 09:58:54 ON 13 JUL 2005

=> d his

FILE 'REGISTRY' ENTERED AT 08:41:02 ON 13 JUL 2005

L1 STR
L2 SCR 2043
L3 2 S L1 AND L2
L4 26 S L1 AND L2 FUL
SAV L4 HU071/A

FILE 'HCAPLUS' ENTERED AT 09:56:20 ON 13 JUL 2005

L5 13 S L4
L6 1 S US20040192867/PN
L7 1 S L5 AND L6

FILE 'REGISTRY' ENTERED AT 09:58:54 ON 13 JUL 2005

=> d que 15

L1 STR
7 11
O O Ak @12
~ ~ ~ ~ ~
G2~O~G1~CF2~C~CF3 Ak~C
1 2 3 4 5 6 8 @9

VAR G1=AK/CY

VAR G2=12/9

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

GGCAT IS UNS AT 8

GGCAT IS UNS AT 12

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE

L2 SCR 2043

L4 26 SEA FILE=REGISTRY SSS FUL L1 AND L2

L5 13 SEA FILE=HCAPLUS ABB=ON PLU=ON L4

=> fil hcap

FILE 'HCAPLUS' ENTERED AT 09:59:08 ON 13 JUL 2005

=> d l5 1-13 ibib abs hitstr hitind

L5 ANSWER 1 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:631706 HCAPLUS

DOCUMENT NUMBER: 141:181965

TITLE: Fluorine-containing compounds as dissolution inhibitors and intermediates for monomers, and their polymers for resists

INVENTOR(S): Narita, Tadashi; Maeda, Kazuhiko

PATENT ASSIGNEE(S): Central Glass Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 22 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004217533	A2	20040805	JP 2003-4262	2003 0110
US 2004192867	A1	20040930	US 2004-753071	2004 0108
PRIORITY APPLN. INFO.:			JP 2003-4262	A 2003 0110

OTHER SOURCE(S): MARPAT 141:181965

AB The compds. bear substituents OR1CF2CH(OR2)CF3 (R1 = alkyl, alkylene, structure containing aromatic ring and/or alicyclic structure; R1 may have F, halo, CN, O, N, Si, alc.; R2 = H, alkyl, aromatic group, hydrocarbyl; R2 may have F, O, N, carbonyl, alc.). Preferably, the monomers are CH2:CR3CO2R1CF2CH(OR2)CF3 [R1, R2 = same as above; R3 = H, F, (fluoro)alkyl, cyano]. The resists show good vacuum-UV transparency, etching resistance, and adhesion to substrates.

IT 733049-86-0P 733049-88-2P 733049-93-9P
 733049-96-2P 733049-98-4P

(F-containing compds. as monomers and dissoln. inhibitors, and polymers for resists showing good vacuum-UV transparency, etching resistance, and adhesion to substrates)

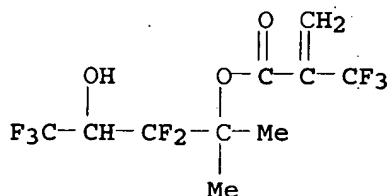
RN 733049-86-0 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol and 2,2,4,4,4-pentafluoro-3-hydroxy-1,1-dimethylbutyl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 733049-85-9

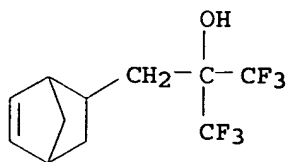
CMF C10 H10 F8 O3



CM 2

CRN 196314-61-1

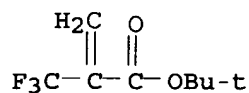
CMF C11 H12 F6 O



CM 3

CRN 105935-24-8

CMF C8 H11 F3 O2



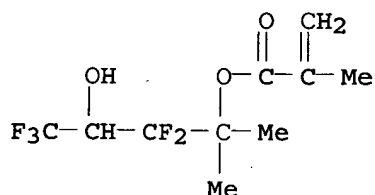
RN 733049-88-2 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with 2,2,4,4,4-pentafluoro-3-hydroxy-1,1-dimethylbutyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 733049-87-1

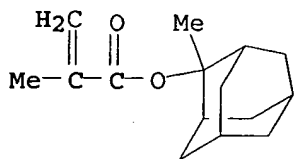
CMF C10 H13 F5 O3



CM 2

CRN 177080-67-0

CMF C15 H22 O2



RN 733049-93-9 HCAPLUS

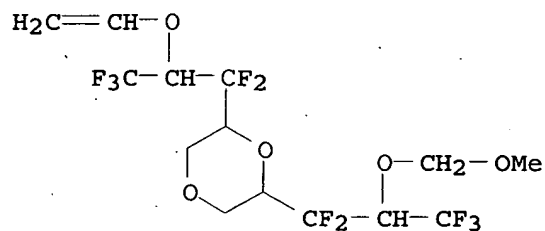
CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2,2-difluoro-2-[6-

(1,1,3,3,3-pentafluoro-2-hydroxypropyl)-1,4-dioxan-2-yl]-1-(trifluoromethyl)ethyl ester, polymer with 6-[2-(ethenyloxy)-1,1,3,3,3-pentafluoropropyl]-β,β-difluoro-α-(trifluoromethyl)-1,4-dioxane-2-ethanol, 2-[2-(ethenyloxy)-1,1,3,3,3-pentafluoropropyl]-6-[1,1,3,3,3-pentafluoro-2-(methoxymethoxy)propyl]-1,4-dioxane and 2,2,4,4,4-pentafluoro-3-(methoxymethoxy)-1,1-dimethylbutyl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 733049-92-8

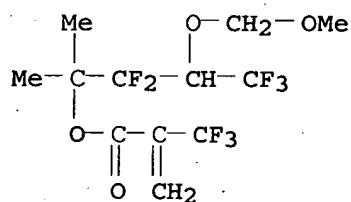
CMF C14 H16 F10 O5



CM 2

CRN 733049-91-7

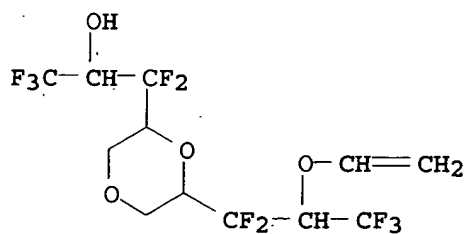
CMF C12 H14 F8 O4



CM 3

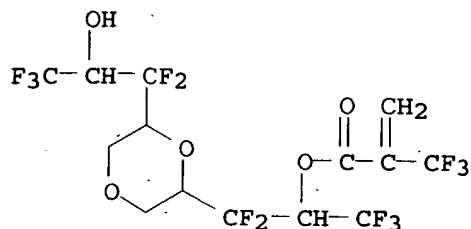
CRN 733049-90-6

CMF C12 H12 F10 O4



CM 4

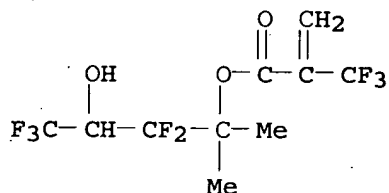
CRN 733049-89-3
CMF C14 H11 F13 O5



RN 733049-96-2 HCAPLUS
CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2,2,4,4,4-pentafluoro-3-hydroxy-1,1-dimethylbutyl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol and tetrafluoroethene (9CI) (CA INDEX NAME)

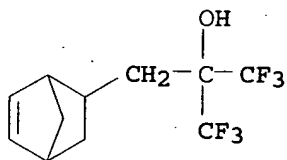
CM 1

CRN 733049-85-9
CMF C10 H10 F8 O3



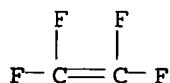
CM 2

CRN 196314-61-1
CMF C11 H12 F6 O



CM 3

CRN 116-14-3
CMF C2 F4



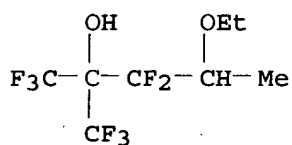
RN 733049-98-4 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2,2,4,4,4-pentafluoro-3-(methoxymethoxy)-1,1-dimethylbutyl ester, polymer with 4-ethoxy-1,1,1,3,3-pentafluoro-2-(trifluoromethyl)-2-pentanol, tetrafluoroethene and 5-[3,3,3-trifluoro-2-(methoxymethoxy)-2-(trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-ene (9CI) (CA INDEX NAME)

CM 1

CRN 733049-97-3

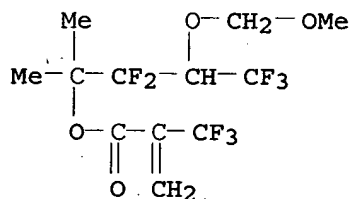
CMF C8 H10 F8 O2



CM 2

CRN 733049-91-7

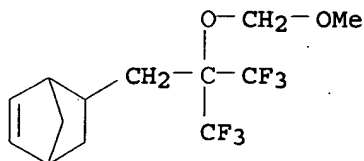
CMF C12 H14 F8 O4



CM 3

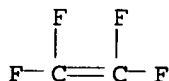
CRN 450358-92-6

CMF C13 H16 F6 O2



CM 4

CRN 116-14-3
CMF C2 F4



IC ICM C07C069-78
ICS C07C031-20; C07C043-23; C07C069-653; C08F014-18; G03F007-004;
G03F007-038; G03F007-039
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
Section cross-reference(s): 23, 24, 25, 28, 35, 38
IT 357397-07-0P 733049-86-0P 733049-88-2P
733049-93-9P 733049-95-1P 733049-96-2P
733049-98-4P 733049-99-5P 733050-00-5P
(F-containing compds. as monomers and dissoln. inhibitors, and
polymers for resists showing good vacuum-UV transparency,
etching resistance, and adhesion to substrates)

L5 ANSWER 2 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:92312 HCAPLUS

DOCUMENT NUMBER: 140:147034

TITLE: Polymerizable compositions containing
perfluoro group-containing compounds for
optical materials and their cured products

INVENTOR(S): Egawa, Masayuki; Shinno, Eri

PATENT ASSIGNEE(S): Kyoeisha Chemical Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004035845	A2	20040205	JP 2002-198446	2002 0708

PRIORITY APPLN. INFO.: JP 2002-198446

2002
0708

AB Title compns. contain perfluoro group-containing compds.
CH₂:CR₁CO₂CRf₂Rf₃Rf₁CRf₄Rf₅OCOCr₁:CH₂ or
R₂(CH₂)nOCRf₂Rf₃Rf₁CRf₄Rf₅O(CH₂)nR₂ (R₁ = H, Me; Rf₁ = C₁-10
perfluoro group; Rf₂-Rf₅ = C₁-18 perfluoro group; R₂ = aliphatic
cyclic ether; n = 1-3). Thus, a composition containing ester of
2,5-trifluoromethyl-2,5-perfluorohexanol and acrylic acid
chloride, Fluolight FA 16, and Irgacure 1173 was applied on a
glass sheet and irradiated with UV light to give a test piece
showing n 1.383, glass transition temperature 104°, and good
scratch resistance.
IT 652132-21-3P 653570-80-0P
(perfluoro-containing polymerizable compns. for optical materials)

with good heat and scratch resistance)

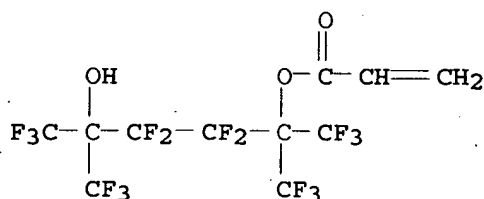
RN 652132-21-3 HCAPLUS

CN 2-Propenoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-hexadecafluoro-1,10-decanediyl ester, polymer with 2,2,3,3,5,5,5-heptafluoro-4-hydroxy-1,1,4-tris(trifluoromethyl)pentyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 652132-20-2

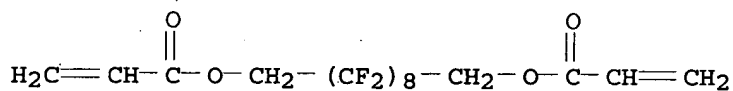
CMF C11 H4 F16 O3



CM 2

CRN 125635-55-4

CMF C16 H10 F16 O4



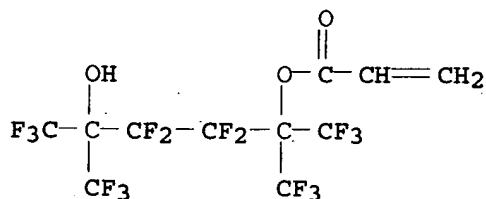
RN 653570-80-0 HCAPLUS

CN 2-Propenoic acid, 1,9-nonanediyl ester, polymer with 2,2,3,3,5,5,5-heptafluoro-4-hydroxy-1,1,4-tris(trifluoromethyl)pentyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 652132-20-2

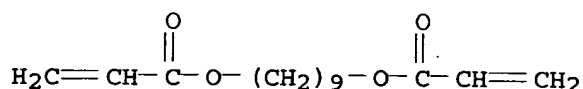
CMF C11 H4 F16 O3



CM 2

CRN 107481-28-7

CMF C15 H24 O4



IC ICM C08F020-24
 ICS C08G059-30; C08J005-00; G02B001-04; G02B001-11; G02B006-12;
 C08L033-16
 CC 37-6 (Plastics Manufacture and Processing)
 Section cross-reference(s): 73
 IT 652132-21-3P 652132-23-5P 653570-80-0P
 (perfluoro-containing polymerizable compns. for optical materials
 with good heat and scratch resistance)

L5 ANSWER 3 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:237128 HCAPLUS
 DOCUMENT NUMBER: 136:270587
 TITLE: Chemical amplification-type resist composition
 INVENTOR(S): Kaneko, Isamu; Takebe, Yoko; Kodama, Shunichi;
 Kawaguchi, Yasuhide
 PATENT ASSIGNEE(S): Asahi Glass Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002090997	A2	20020327	JP 2000-281168	2000 0918

PRIORITY APPLN. INFO.: JP 2000-281168

AB The chemical amplification-type resist composition comprises (A) a fluoropolymer which is made up of a cyclic repeating unit consisting of a diene-based monomer $\text{CH}_2=\text{CHXCH}=\text{CH}_2$ (X = O, methylene) and a blocked acidic group-bearing fluorinated vinyl monomer with a blocked acidic group, (B) a photoacid, and (C) an organic solvent. The diene-based monomer may be 1,4-pentadiene or divinyl ether. The blocked acidic group may be 1-hydroxy-1-trifluoromethyl-2,2-trifluoroethyl or 1-hydroxy-1-trifluoromethylethyl.

IT 405283-38-7P 405283-39-8P 405283-40-1P
 405283-42-3P

(chemical amplification-type resist composition)

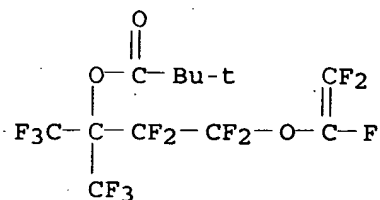
RN 405283-38-7 HCAPLUS

CN Propanoic acid, 2,2-dimethyl-, 2,2,3,3-tetrafluoro-3-
 [(trifluoroethenyl)oxy]-1,1-bis(trifluoromethyl)propyl ester,
 polymer with 1,4-pentadiene (9CI) (CA INDEX NAME)

CM 1

CRN 380642-60-4

CMF C12 H9 F13 O3



CM 2

CRN 591-93-5

CMF C5 H8



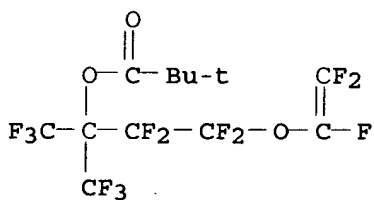
RN 405283-39-8 HCAPLUS

CN Propanoic acid, 2,2-dimethyl-, 2,2,3,3-tetrafluoro-3-
 [(trifluoroethenyl)oxy]-1,1-bis(trifluoromethyl)propyl ester,
 polymer with 1,1'-oxybis[ethene] (9CI) (CA INDEX NAME)

CM 1

CRN 380642-60-4

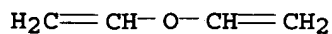
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CM 2

CRN 109-93-3

CMF C4 H6 O



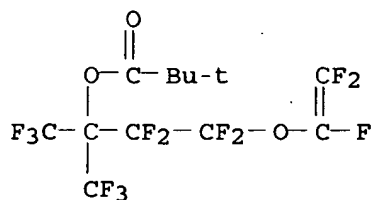
RN 405283-40-1 HCAPLUS

CN Propanoic acid, 2,2-dimethyl-, 2,2,3,3-tetrafluoro-3-
 [(trifluoroethenyl)oxy]-1,1-bis(trifluoromethyl)propyl ester,
 polymer with 1,4-pentadien-3-ol (9CI) (CA INDEX NAME)

CM 1

CRN 380642-60-4

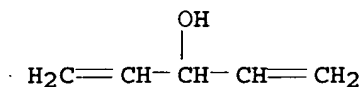
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CM 2

CRN 922-65-6

CMF C5 H8 O



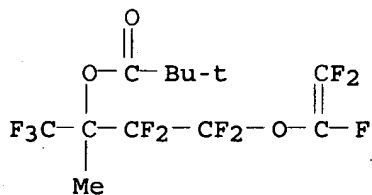
RN 405283-42-3 HCAPLUS

CN Propanoic acid, 2,2-dimethyl-, 2,2,3,3-tetrafluoro-1-methyl-3-[(trifluoroethenyl)oxy]-1-(trifluoromethyl)propyl ester, polymer with 1,1'-oxybis[ethene], 1,4-pentadiene, 1,4-pentadien-3-ol and 2,2,3,3-tetrafluoro-3-[(trifluoroethenyl)oxy]-1,1-bis(trifluoromethyl)propyl 2,2-dimethylpropanoate (9CI) (CA INDEX NAME)

CM 1

CRN 405283-41-2

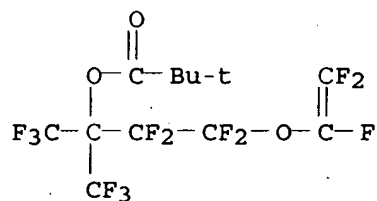
CMF C12 H12 F10 O3



CM 2

CRN 380642-60-4

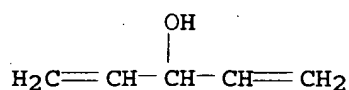
CMF C12 H9 F13 O3



CM 3

CRN 922-65-6

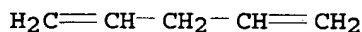
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CM 4

CRN 591-93-5

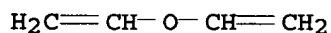
CMF C5 H8



CM 5

CRN 109-93-3

CMF C4 H6 O



IC ICM G03F007-038

ICS C08F216-12; C08F216-14; C08F236-04; C08K005-00; C08L029-10;
C08L047-00; H01L021-027CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)

Section cross-reference(s): 38

IT 405283-38-7P 405283-39-8P 405283-40-1P

405283-42-3P

(chemical amplification-type resist composition)

L5 ANSWER 4 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:237127 HCAPLUS

DOCUMENT NUMBER: 136:270586

TITLE: Negative-working fluoropolymer-based chemical
amplification resist compositionINVENTOR(S): Kodama, Shunichi; Kaneko, Isamu; Kawaguchi,
Yasuhide

PATENT ASSIGNEE(S): Asahi Glass Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002090996	A2	20020327	JP 2000-281167	2000 0918

PRIORITY APPLN. INFO.: JP 2000-281167
 2000
 0918

AB The neg.-working fluoropolymer-based chemical amplification resist composition comprises (a) a fluoropolymer having an acidic OH-bearing monomer unit, (b) a photoacid, (c) an aminoplast, and (d) an organic solvent.

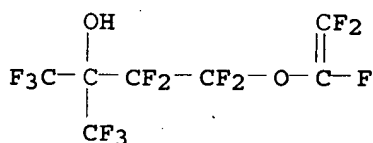
IT 405226-93-9
 (neg.-working fluoropolymer-based chemical amplification resist composition)

RN 405226-93-9 HCAPLUS

CN 2-Butanol, 1,1,1,3,3,4,4-heptafluoro-4-[(trifluoroethenyl)oxy]-2-(trifluoromethyl)-, polymer with (ethenyloxy)cyclohexane (9CI)
 (CA INDEX NAME)

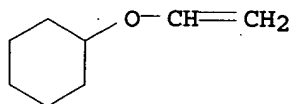
CM 1

CRN 94718-34-0
 CMF C7 H F13 O2



CM 2

CRN 2182-55-0
 CMF C8 H14 O



IC ICM G03F007-038
 ICS C08F214-18; C08K005-00; C08K005-16; C08L027-12; C08L029-10;
 G03F007-004; H01L021-027
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

IT 262617-11-8, Norbornene-tetrafluoroethylene-vinyl acetate copolymer 405226-91-7D, Norbornene-tetrafluoroethylene-vinylene copolymer, hydrolyzed 405226-92-8 405226-93-9
(neg.-working fluoropolymer-based chemical amplification resist composition)

L5 ANSWER 5 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:919122 HCAPLUS
DOCUMENT NUMBER: 136:45686
TITLE: Resist composition containing fluoropolymer
INVENTOR(S): Takebe, Yoko; Kodama, Shunichi; Kaneko, Isamu
PATENT ASSIGNEE(S): Asahi Glass Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001350264	A2	20011221	JP 2000-173033	2000 0609
PRIORITY APPLN. INFO.:			JP 2000-173033	2000 0609

AB The composition contains (1) a fluoropolymer comprising (a) a monomer having blocked acidic group CF₂CF(OCnF₂nB) or CF₂CFO[CF₂CF(CF₃)O]_m(CF₂)_lB (n, m = 1-10; l = 1-3; B = blocked acidic group) and (b) an alicyclic ethylenic monomer, (2) a compound generating an acid by photo radiation, and (3) an organic solvent. The composition is developable by alkaline solution, sensitive to light with short wavelength, shows good dry etching and heat resistance, and is useful for manufacture of semiconductor devices.

IT 380642-61-5P

(photoresist composition containing fluoropolymer containing blocked acidic group and acid generator)

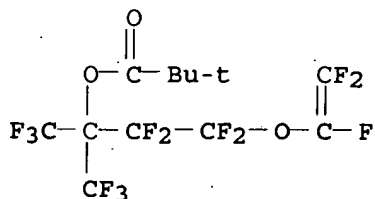
RN 380642-61-5 HCAPLUS

CN Propanoic acid, 2,2-dimethyl-, 2,2,3,3-tetrafluoro-3-[(trifluoroethenyl)oxy]-1,1-bis(trifluoromethyl)propyl ester, polymer with bicyclo[2.2.1]hept-2-ene (9CI) (CA INDEX NAME)

CM 1

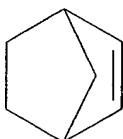
CRN 380642-60-4

CMF C12 H9 F13 O3



CM 2

CRN 498-66-8
CMF C7 H10



IC ICM G03F007-039
ICS C08F210-14; C08F216-14; C08F216-16; C08F224-00; C08F232-00;
C08F234-00; C08K005-00; C08L027-12; C08L057-00; H01L021-027
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
Section cross-reference(s): 38, 76
IT 380642-61-5P 380642-63-7P 380642-64-8P 380642-66-0P
(photoresist composition containing fluoropolymer containing blocked acidic
group and acid generator)

L5 ANSWER 6 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:507763 HCAPLUS
DOCUMENT NUMBER: 135:93389
TITLE: Preparation of fluoropolymers by aqueous
emulsion polymerization
INVENTOR(S): Hintzer, Klaus; Lohr, Gernot; Marz, Franz
PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA
SOURCE: PCT Int. Appl., 18 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001049752	A2	20010712	WO 2000-US35105	2000 1222
WO 2001049752	A3	20020221		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
DE 19964004	A1	20010712	DE 1999-19964004	1999 1230

CA 2395706	AA	20010712	CA 2000-2395706	2000 1222
AU 2001036358	A5	20010716	AU 2001-36358	2000 1222
EP 1244715	A2	20021002	EP 2000-991868	2000 1222
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2003520287	T2	20030702	JP 2001-550292	2000 1222
TW 553956	B	20030921	TW 2000-89128301	2000 1229
US 2003032748	A1	20030213	US 2001-9758	2001 1211
US 6677414	B2	20040113		
ZA 2002006048	A	20031029	ZA 2002-6048	2002 0729
PRIORITY APPLN. INFO.:			DE 1999-19964004	A 1999 1230
			WO 2000-US35105	W 2000 1222

AB The fluoropolymer is prepared by preemulsifying a liquid fluorinated monomer with b.p. >50° and low water-solubility (such as fluorinated olefins, fluorinated allyl ethers and fluorinated vinyl ethers that do not contain hydrolyzable groups), e.g., CF₂:CFOCF₂CF(CF₃)OCF₂CF₂CF₃, with a nontelogenic fluorinated emulsifier, e.g., ammonium perfluorooctanoate (FT 208), in water; and polymerizing the emulsified liquid fluorinated monomer.

IT 349118-40-7P

(preparation of fluoropolymers by aqueous emulsion polymerization)

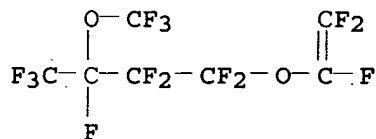
RN 349118-40-7 HCAPLUS

CN Butane, 1,1,1,2,3,3,4,4-octafluoro-4-[(trifluoroethenyl)oxy]-2-(trifluoromethoxy)-, polymer with 1,1-difluoroethene and tetrafluoroethene (9CI) (CA INDEX NAME)

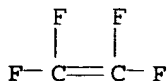
CM 1

CRN 346662-50-8

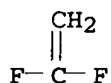
CMF C7 F14 O2



CM 2

CRN 116-14-3
CMF C2 F4

CM 3

CRN 75-38-7
CMF C2 H2 F2IC ICM C08F014-00
ICS C08F002-00

CC 37-3 (Plastics Manufacture and Processing)

IT 65170-39-0P 252846-11-0P 349118-39-4P 349118-40-7P
349118-41-8P

(preparation of fluoropolymers by aqueous emulsion polymerization)

L5 ANSWER 7 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:627860 HCAPLUS

DOCUMENT NUMBER: 129:245549

TITLE: Copolymerization of 2-hydroxyethyl
methacrylate with fluorohydroxyalkyl
methacrylatesAUTHOR(S): Skorakhmedov, Sh. Sh.; Zaripova, R. Sh.;
Yul'chiboev, A. A.

CORPORATE SOURCE: Tashkent. Gos. Univ., Uzbekistan

SOURCE: Uzbekskii Khimicheskii Zhurnal (1998), (1),
12-14

CODEN: UZKZAC; ISSN: 0042-1707

PUBLISHER: Fan

DOCUMENT TYPE: Journal

LANGUAGE: Russian

AB Reactivity ratios were determined for copolymn. of 2-hydroxyethyl
methacrylate with 1,1-dihydro-3,6-dihydroxyperfluoroheptyl
methacrylate and 1,1-dihydro-3,6,9-trihydroxyperfluorodecyl
methacrylate. Homogeneous copolymers can be obtained using
azeotropic or low-conversion polymerization

IT 213319-57-4P 213319-58-5P

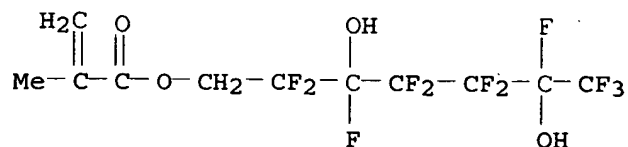
(copolymn. of 2-hydroxyethyl methacrylate with
fluorohydroxyalkyl methacrylates)

RN 213319-57-4 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with
2,2,3,4,4,5,5,6,7,7,7-undecafluoro-3,6-dihydroxyheptyl
2-methyl-2-propenoate (9CI) (CA INDEX NAME)

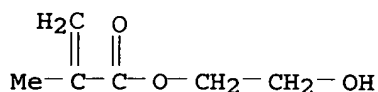
CM 1

CRN 213319-55-2
CMF C11 H9 F11 O4



CM 2

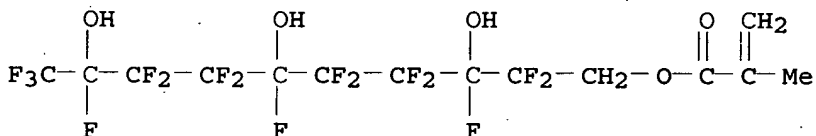
CRN 868-77-9
CMF C6 H10 O3



RN 213319-58-5 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2,2,3,4,4,5,5,6,7,7,8,8,9,10,10,10-hexadecafluoro-3,6,9-trihydroxydecyl ester, polymer with 2-hydroxyethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

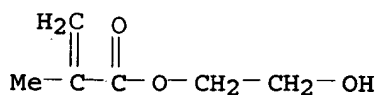
CM 1

CRN 213319-56-3
CMF C14 H10 F16 O5



CM 2

CRN 868-77-9
CMF C6 H10 O3



CC 35-3 (Chemistry of Synthetic High Polymers)
IT 213319-57-4P 213319-58-5P
(copolymn. of 2-hydroxyethyl methacrylate with fluorohydroxyalkyl methacrylates)

L5 ANSWER 8 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1989:201584 HCAPLUS

DOCUMENT NUMBER: 110:201584
 TITLE: Electrolytic production of an alkali metal hydroxide
 INVENTOR(S): Suzuki, Koji; Sugaya, Yoshio; Watakabe, Atsushi; Shimohira, Tetsugi
 PATENT ASSIGNEE(S): Asahi Glass Co., Ltd., Japan
 SOURCE: PCT Int. Appl., 51 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
WO 8809799	A1	19881215	WO 1988-JP537	1988 0603
W: SU, US RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
JP 63310983	A2	19881219	JP 1987-145155	1987 0612
JP 63310985	A2	19881219	JP 1987-145157	1987 0612
JP 63310986	A2	19881219	JP 1987-145158	1987 0612
EP 318589	A1	19890607	EP 1988-904663	1988 0603
EP 318589	B1	19930804		
R: BE, DE, FR, GB, IT, NL, SE				
CA 1325195	A1	19931214	CA 1988-569219	1988 0610
CN 88103588	A	19881228	CN 1988-103588	1988 0611
CN 1015270	B	19920101		
US 5039382	A	19910813	US 1989-309731	1989 0203
SU 1823884	A3	19930623	SU 1989-4613509	1989 0210
PRIORITY APPLN. INFO.:			JP 1987-145155	A 1987 0612
			JP 1987-145157	A 1987 0612
			JP 1987-145158	A 1987 0612

WO 1988-JP537

W

1988

0603

AB The hydroxide is produced by electrolysis in a cell comprising a F-containing cation-exchange membrane having a 1st layer of an alkali-resistant cation exchanger $\geq 5 \mu\text{m}$ thick selected from (a) a layer of cation exchanger having embedded alkali-resistant inorg. particles or fibrils; (b) a layer of porous cation-exchange resin with min. permeability; and (c) a layer of cation exchanger having an alkali-resistant polymer with no embedded ion-exchanging groups, and a 2nd layer of a perfluorocarbon polymer having CO₂M groups (where M is an alkali metal) and a H₂O content of 2-7 weight% in a 45 weight% NaOH aqueous solution $\geq 5 \mu\text{m}$ thick.

IT 120543-55-7
(cation-exchange membranes containing, for production of alkali metal hydroxides)

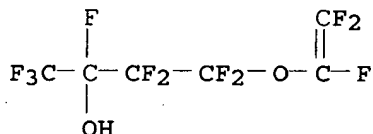
RN 120543-55-7 HCAPLUS

CN 2-Butanol, 1,1,1,2,3,3,4,4-octafluoro-4-[(trifluoroethenyl)oxy]-, polymer with tetrafluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 120543-54-6

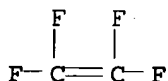
CMF C6 H F11 O2



CM 2

CRN 116-14-3

CMF C2 F4



IC ICM C08J005-22

ICS C25B001-46

CC 72-9 (Electrochemistry)

Section cross-reference(s): 49

IT 7699-43-6, Zirconyl chloride 12014-56-1, Ceric hydroxide
12033-89-5, Silicon nitride, uses and miscellaneous 12055-23-1,
Hafnium dioxide 26654-97-7 31175-20-9 61757-36-6
120543-55-7

(cation-exchange membranes containing, for production of alkali metal hydroxides)

L5 ANSWER 9 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1988:494321 HCAPLUS

DOCUMENT NUMBER: 109:94321
 TITLE: Liquid separation with fluorinated polymer membranes
 AUTHOR(S): Nakamura, M.; Samejima, S.; Kawasaki, T.
 CORPORATE SOURCE: Res. Assoc. Basic Polym. Technol., Tokyo, 105, Japan
 SOURCE: Journal of Membrane Science (1988), 36, 343-51
 CODEN: JMESDO; ISSN: 0376-7388
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Several perfluorohomo- and copolymers were synthesized and their use as membrane materials in separating aqueous solns. by pervaporation was investigated. Copolymers of tetrafluoroethylene (I) with alkyl vinyl ethers were investigated in detail. Copolymers with hydrocarbon comonomers such as isooctyl or n-octadecyl vinyl ether exhibited higher separation factors than perfluorocarbon homopolymers. A separation factor as high as 7.1 was obtained with I-isooctyl vinyl ether copolymer. The interaction between membrane and permeate was evaluated by measuring free volume, glass transition temperature, solubility coefficient, and work adhesion (W). A correlation was observed between the ratio of W and the separation factor. The highest separation factor was obtained with a perfluoro copolymer having an OH group.

IT 112593-11-0, Perfluoro-2-methyl-5-oxa-6-hepten-2-ol-tetrafluoroethylene copolymer
 (pervaporation membranes, for liquid separation)

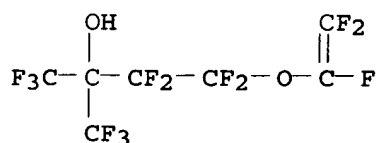
RN 112593-11-0 HCAPLUS

CN 2-Butanol, 1,1,1,3,3,4,4-heptafluoro-4-[(trifluoroethenyl)oxy]-2-(trifluoromethyl)-, polymer with tetrafluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 94718-34-0

CMF C7 H F13 O2



CM 2

CRN 116-14-3

CMF C2 F4



CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 66

IT 25067-11-2, Hexafluoropropene-tetrafluoroethylene copolymer
 25120-52-9 26654-97-7, Perfluoro-4-methyl-3,6-dioxa-7-octenesulfonic acid fluoride-tetrafluoroethylene copolymer

26655-00-5, Perfluoro-3-oxa-1-hexene-tetrafluoroethylene copolymer
 27029-05-6, Propene-tetrafluoroethylene copolymer 65170-39-0,
 Perfluoro-3,6-dioxa(5-methyl)-1-nonene-tetrafluoroethylene
 copolymer 98865-25-9, 3-Oxa-1-uneicosene-tetrafluoroethylene
 copolymer 112593-11-0, Perfluoro-2-methyl-5-oxa-6-hepten-
 2-ol-tetrafluoroethylene copolymer 116075-87-7,
 5-Ethyl-3-oxa-1-nonene-tetrafluoroethylene copolymer
 116075-88-8, 5-Ethyl-3-oxa-1-nonene-3-oxa-1-uneicosene-
 tetrafluoroethylene copolymer 116075-89-9, 5-Ethyl-3-oxa-1-
 nonene-tetrafluoroethylene-3,6,9-trioxa-1-decene copolymer
 (pervaporation membranes, for liquid separation)

L5 ANSWER 10 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1988:57486 HCAPLUS
 DOCUMENT NUMBER: 108:57486
 TITLE: Fluoropolymer membranes for separation of
 liquids
 INVENTOR(S): Samejima, Shunichi; Nakamura, Hide
 PATENT ASSIGNEE(S): Agency of Industrial Sciences and Technology,
 Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62186907	A2	19870815	JP 1986-27944	1986 0213
JP 04021529	B4	19920410	JP 1986-27944	1986 0213

PRIORITY APPLN. INFO.:

AB Pervaporation membranes for separating organic liqs. from H₂O are prepared from CF₂:CFOCF₂CF₂C(CF₃)₂OH-C₂F₄ (I) copolymer. A 70-μ 19:81 I membrane in separation of 15% aqueous EtOH at 60° gave permeate flux 0.091 kg/m²-h and EtOH-H₂O separation factor 7.2.

IT 112593-11-0

(membranes, for pervaporation of organic liqs. and water)

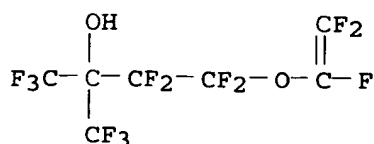
RN 112593-11-0 HCAPLUS

CN 2-Butanol, 1,1,1,3,3,4,4-heptafluoro-4-[(trifluoroethenyl)oxy]-2-(trifluoromethyl)-, polymer with tetrafluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 94718-34-0

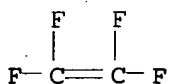
CMF C7 H F13 O2



CM 2

CRN 116-14-3

CMF C2 F4



IC ICM B01D013-00

ICS B01D013-04

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 45, 47

IT 112593-11-0

(membranes, for pervaporation of organic liqs. and water)

L5 ANSWER 11 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1986:554307 HCAPLUS

DOCUMENT NUMBER: 105:154307

TITLE: Fluorine-containing polymer for gas-separating membrane

INVENTOR(S): Ohmori, Akira; Yasuhara, Takashi; Izutani, Naoaki; Ueda, Yasufumi

PATENT ASSIGNEE(S): Daikin Industries, Ltd., Japan

SOURCE: Eur. Pat. Appl., 29 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 180913	A1	19860514	EP 1985-113809	1985 1030
EP 180913 R: DE, FR, GB	B1	19890726		
JP 61111309	A2	19860529	JP 1984-232192	1984 1102
US 4644043	A	19870217	US 1985-792570	1985 1029
PRIORITY APPLN. INFO.:			JP 1984-232192	A 1984 1102

AB Polymers for membranes with good mech. strength for separating O from air contain $\text{CH}_2\text{CF}[\text{CO}_2(\text{CH}_2)_m\text{CFX}(\text{OCF}_2\text{CFX})_n\text{OC}_3\text{F}_7]$ units ($X = \text{F}$ or $\text{C}_1\text{-3}$ fluoroalkyl, $m = 1\text{-3}$, $n = 0\text{-5}$). Thus, AIBN-initiated polymerization of $\text{CH}_2:\text{CF}\text{CO}_2\text{CH}_2\text{CF}(\text{CF}_3)\text{OCF}_2\text{CF}(\text{CF}_3)\text{OC}_3\text{F}_7$ gave a polymer (I, weight-average mol. weight 1,060,000) which was dissolved (1 g) in 70:30 (weight ratio) 1,1,2-trichloro-1,2,2-trifluoroethane-m-xylene hexafluoride mixture and sprayed on a porous Duraguard 2400 substrate to give a 2.7- μm -thick membrane which remained intact under 5 kg/cm² gauge pressure, whereas a similar membrane prepared from $\text{CH}_2:\text{CMeCO}_2\text{CH}_2\text{CF}(\text{CF}_3)\text{OCF}_2\text{CF}(\text{CF}_3)\text{OC}_3\text{F}_7$ polymer (II) instead of I broke under 3.5 kg/cm² gauge pressure. The I-containing membrane exhibited O permeability coefficient $130 \pm 10 \times 10^{-10}$ mL-cm/cm Hg s-cm² and O/N separation coefficient 2.8, compared with $43 \pm 10 \times 10^{-10}$ and 3.7, resp., for the II-containing membrane.

IT 104579-92-2P

(manufacture of, for gas-separation membranes with improved mech. strength)

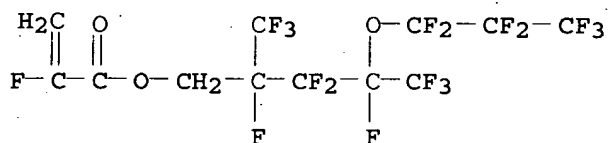
RN 104579-92-2 HCAPLUS

CN 2-Propenoic acid, 2-fluoro-, 2,3,3,4,5,5,5-heptafluoro-4-(heptafluoropropoxy)-2-(trifluoromethyl)pentyl ester, polymer with 2,2,3,3,3-pentafluoropropyl 2-fluoro-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 104579-91-1

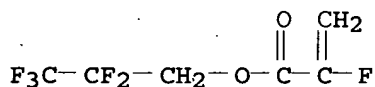
CMF C12 H4 F18 O3



CM 2

CRN 96250-35-0

CMF C6 H4 F6 O2



IC ICM C08F020-28

ICS B01D013-04; B01D053-22

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 35

IT 104559-64-0P 104559-65-1P 104559-66-2P 104559-67-3P

104559-68-4P 104559-69-5P 104559-70-8P 104579-92-2P

(manufacture of, for gas-separation membranes with improved mech. strength).

L5 ANSWER 12 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1986:150390 HCAPLUS

DOCUMENT NUMBER: 104:150390

TITLE: Gas separation membranes
 INVENTOR(S): Omori, Akira; Tomihashi, Nobuyuki; Inukai, Hiroshi; Nakai, Kazuhiro
 PATENT ASSIGNEE(S): Daikin Industries, Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 60220106	A2	19851102	JP 1984-78087	1984 0418
PRIORITY APPLN. INFO.: JP 1984-78087				1984 0418

AB The title membranes, with high strength and O permeability, contain polymers with glass transition temperature (Tg) $\leq 20^\circ$ containing ≥ 20 mol% [fluoroalk(ox)yl]alkyl vinyl ethers. Thus, a 10% MEK solution of CH₂:CHOCH₂CF₂CF₃ polymer (Tg -27.2°) was cast on PTFE (porosity 45%) and dried at 60° for 8 h to form a 2.3- μ film. The membrane was used to sep. a 79:21 N-O at 5 and 1 kg/cm² primary and secondary pressure, with permeability 6.8 + 10-10 mL-cm/cm²-s-cm Hg, and O-N separation coefficient 3.9.

IT 101233-01-6 101233-02-7 101233-04-9
 101233-05-0 101233-07-2 101233-08-3
 (membranes containing, for gas separation)

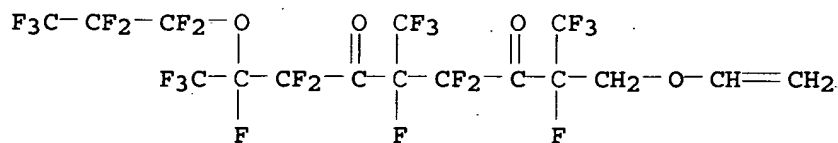
RN 101233-01-6 HCAPLUS

CN 3,6-Nonanedione, 2-[(ethenyloxy)methyl]-1,1,1,2,4,4,5,7,7,8,9,9,9-tridecafluoro-8-(heptafluoropropoxy)-5-(trifluoromethyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 101233-00-5

CMF C16 H5 F23 O4



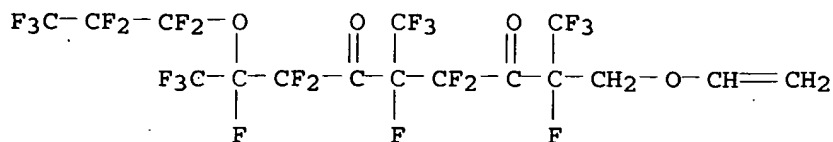
RN 101233-02-7 HCAPLUS

CN 3,6-Nonanedione, 2-[(ethenyloxy)methyl]-1,1,1,2,4,4,5,7,7,8,9,9,9-tridecafluoro-8-(heptafluoropropoxy)-5-(trifluoromethyl)-, polymer with 3-(ethenyloxy)-1,1,1,2,2-pentafluoropropane (9CI) (CA INDEX NAME)

CM 1

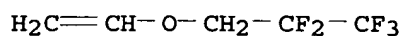
CRN 101233-00-5

CMF C16 H5 F23 O4



CM 2

CRN 378-19-8
 CMF C5 H5 F5 O

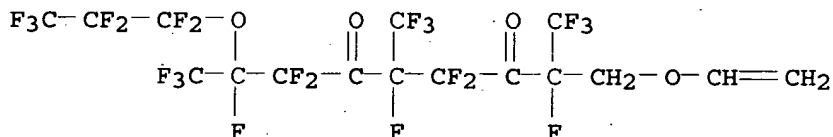


RN 101233-04-9 HCAPLUS

CN 3,6-Nonanedione, 2-[(ethenyloxy)methyl]-1,1,1,2,4,4,5,7,7,8,9,9,9-tridecafluoro-8-(heptafluoropropoxy)-5-(trifluoromethyl)-, polymer with 4-(ethenyloxy)-1-butanol (9CI) (CA INDEX NAME)

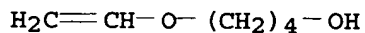
CM 1

CRN 101233-00-5
 CMF C16 H5 F23 O4



CM 2

CRN 17832-28-9
 CMF C6 H12 O2

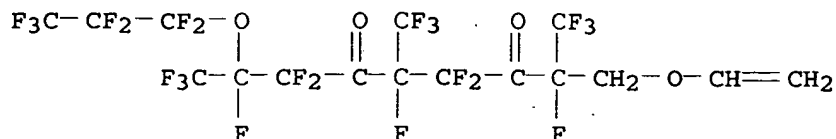


RN 101233-05-0 HCAPLUS

CN 3,6-Nonanedione, 2-[(ethenyloxy)methyl]-1,1,1,2,4,4,5,7,7,8,9,9,9-tridecafluoro-8-(heptafluoropropoxy)-5-(trifluoromethyl)-, polymer with 4-(ethenyloxy)-1-butanol and 3-(ethenyloxy)-1,1,1,2,2-pentafluoropropane (9CI) (CA INDEX NAME)

CM 1

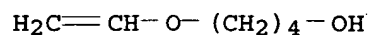
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CM 2

CRN 17832-28-9

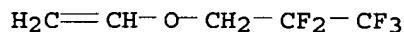
CMF C6 H12 O2



CM 3

CRN 378-19-8

CMF C5 H5 F5 O



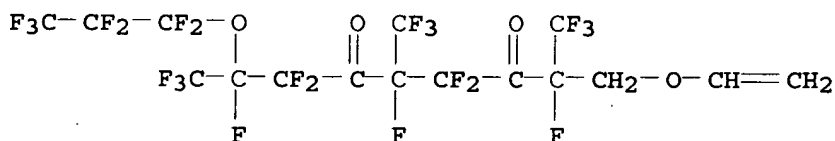
RN 101233-07-2 HCAPLUS

CN 3,6-Nonanedione, 2-[(ethenyloxy)methyl]-1,1,1,2,4,4,5,7,7,8,9,9,9-tridecafluoro-8-(heptafluoropropoxy)-5-(trifluoromethyl)-, polymer with tetrafluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 101233-00-5

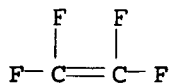
CMF C16 H5 F23 O4



CM 2

CRN 116-14-3

CMF C2 F4



RN 101233-08-3 HCAPLUS

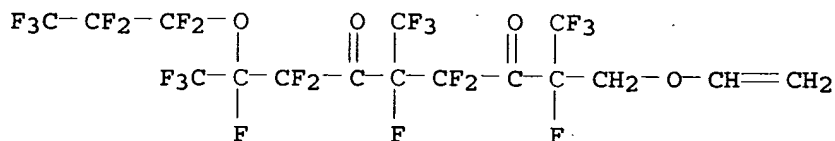
CN 3,6-Nonanedione, 2-[(ethenyloxy)methyl]-1,1,1,2,4,4,5,7,7,8,9,9,9-tridecafluoro-8-(heptafluoropropoxy)-5-(trifluoromethyl)-, polymer

with chlorotrifluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 101233-00-5

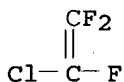
CMF C16 H5 F23 O4



CM 2

CRN 79-38-9

CMF C2 Cl F3



IC ICM B01D013-00

ICS B01D013-04; B01D053-22; C01B013-02; C01B021-04; C08F016-24

CC 38-3 (Plastics Fabrication and Uses)

IT 79001-89-1 100328-09-4 101232-96-6 101232-97-7 101232-99-9

101233-01-6 101233-02-7 101233-03-8

101233-04-9 101233-05-0 101233-06-1

101233-07-2 101233-08-3 101233-09-4

101233-10-7

(membranes containing, for gas separation)

L5 ANSWER 13 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1985:157975 HCAPLUS

DOCUMENT NUMBER: 102:157975

TITLE: Pressure-fixable toner in microcapsule form
INVENTOR(S): Nagai, Tatsuo; Suzuki, Shinichi; Yamazaki, Hiroshi

PATENT ASSIGNEE(S): Konishiroku Photo Industry Co., Ltd. , Japan

SOURCE: Ger. Offen., 52 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3407829	A1	19840906	DE 1984-3407829	1984 0302
JP 59159175	A2	19840908	JP 1983-32850	1983 0302

US 4708924

A

19871124

US 1985-813618

1985

1226

PRIORITY APPLN. INFO.:

JP 1983-32850

A

1983

0302

US 1984-582531

A1

1984

0222

AB A pressure-fixable toner which gives high-quality electrophotog. copies which do not smudge easily consists of microcapsules with cores composed of combination of a substance a with a hardening point of -90 to +5° or a' a mixture with such a hardening point, and b a substance with a softening point at 25-180° or b' a mixture with such a softening point. Thus, ethylhexyl methacrylate, rubber, a Bisphenol A-type epoxy resin, an amine hardener, lauryl peroxide, and Fe2O3 powder were milled and mixed with an aqueous suspension containing Ca3(PO4)2 and Na dodecylbenzenesulfonate. This suspension was heated for 8 h at 75° to give a pressure-fixable magnetic encapsulated toner which gave high-quality copies when used in an electrophotog. copier having pressure-fixing development.

IT 95831-11-1

(pressure-fixable encapsulated toners for electrophotog. containing)

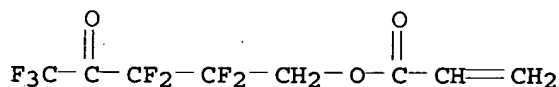
RN 95831-11-1 HCAPLUS

CN 2-Propenoic acid, 2,2,3,3,5,5,5-heptafluoro-4-oxopentyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 95831-10-0

CMF C8 H5 F7 O3



IC G03G009-08

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 80-39-7 84-74-2 85-68-7 100-42-5D, derivs., polymers

1077-56-1	1330-78-5	9002-85-1	9002-86-2	9002-88-4
9003-05-8	9003-07-0	9003-09-2	9003-18-3	9003-20-7
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9011-14-7	9011-15-8	24936-41-2	24936-44-5	24979-82-6
24981-14-4	24991-31-9	24991-32-0	24991-47-7	25014-15-7
25014-41-9	25035-84-1	25037-62-1	25038-44-2	25038-87-3
25067-59-8	25067-61-2	25087-17-6	25087-18-7	25087-21-2
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(pressure-fixable encapsulated toners for electrophotog.
containing)